

## REMARKS

Claims 1-19 are pending in this application. Claim 16 has been amended. The claim amendment is supported by the specification and the claims as originally filed. No new matter is added.

Claim 1 is rejected under 35 U.S.C. § 102(e) as being anticipated by Kim (U.S. Patent No. 5,908,699). Claims 2-5 are rejected under 35 U.S.C. § 103(a) as obvious over Kim. These rejections are traversed.

Claim 1 of the present invention is directed to “[a]n electronic element comprising a deposited film containing cesium, said deposited film comprising a plurality of projections composed of **cesium oxide** on a surface thereof” (emphasis added). Thus, the presently claimed invention has a plurality of projections of cesium oxide on the surface of a deposited film of an electronic element. In contrast, Kim discloses a “**cesium-carbon-oxide** layer [which] is positioned on the amorphous carbon matrix” (Kim, Abstract). Applicants respectfully submit that the cesium oxide of the presently claimed invention is different from the cesium-carbon-oxide layer of Kim. Thus, Kim does not teach or suggest cesium oxide as recited in claim 1.

As to the rejection of claim 2, Applicants agree with the Examiner that “the Kim reference does not disclose the height of the tips” (Office Action, page 3, lines 14-15). However, Applicants respectfully submit that the claimed average height range (claim 2) would not have been obvious to those of skill in the art.

The specification of the present invention clearly states that “if the average height  $h$  of the conical projections 4 is smaller than 10 nm, no effect is provided. On the other hand, if the average height  $h$  of the conical projections 4 is larger than 500 nm, the

distortion in the surface of the element and in the vicinity thereof is increased, and as a result, cracks are liable to be produced in the cold cathode element" (Specification, page 6, lines 8-13). Thus, claimed average height range not only determines the range at which an effect be provided by the conical projections, but notes the range at which the cracks in the cold cathode element are prevented, thereby clearly solving the two above-described problems.

If, as the Office Action asserts, "[I]ncreasing the height increases the relative field strength," the optimum value for the height of the tips would be infinity (or as high as possible). Applicants respectfully submit that in view of the fact that the claimed average height range is adjusted (to be far lower than infinitely high) such that cracks in the cold cathode element are prevented, those of skill in the art would not have found the claimed average height range to be obvious in view of the disclosure of Kim.

As such, those of skill in the art would not have found claims 1 or 2-5 anticipated by or obvious over Kim. Thus, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(e) as anticipated by Kim. Further, since independent claim 1 is patentable, dependent claims 2-5 are patentable for at least the same reasons as well as the additional reasons discussed above. Thus, for the above reasons, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 2-5 under 35 U.S.C. § 103(a) as obvious over Kim.

Claims 16 and 17 are rejected under 35 U.S.C. § 102(b) as being anticipated by Sullivan et al. (U.S. Patent No. 5,821,680). This rejection is traversed as it may apply to amended claims 16-17.

As noted in Applicants' December 9, 2003 Response, Sullivan et al. does not teach or suggest that the film layers can include cesium. In fact, Sullivan et al. states that it is well known to have "surface absorbed or deposited layers, such as cesium ... deposited on a material such as diamond or carbon to improve electron emission properties. However, these prior art materials are expensive to produce over the large areas necessary for field emission application (patterned bulk material) or display undesirable properties such as high turn - on voltage, or non-uniform spatial or temporal emission characteristics" (Sullivan et al., column 1, lines 53-67). Thus, the disclosure of Sullivan et al. teaches away from the inclusion of cesium.

Sullivan et al. do not teach or suggest all of the elements of claim 16. As such, Applicants respectfully submit that claim 16 would not have been anticipated by those of skill in the art in view of the disclosure of Sullivan et al. Thus, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 16-17 under 35 U.S.C. § 102(b) as anticipated by Sullivan et al.

Claims 6-15 are rejected under 35 U.S.C. § 103(a) as obvious over Pehrsson et al. (U.S. Patent No. 6,554,673). Claims 18 and 19 are rejected under 35 U.S.C. § 103(a) as obvious over Pehrsson et al. in view of Cuomò et al. (U.S. Patent No. 5,852,303). These rejections are traversed.

Applicants note that Pehrsson et al. was filed on July 31, 2001. The present application was filed on March 30, 2000. Since Pehrsson et al. was filed (more than one year) after the present application, Applicants respectfully submit that Pehrsson et al. is not a valid prior art reference under 35 U.S.C. § 102.

Thus, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) of claims 6-15 as obvious over Pehrsson et al. and claims 18-19 as obvious over Pehrsson et al. in view of Cuomo et al.

Applicants respectfully submit that this application is in condition for allowance and such action is earnestly solicited. If the Examiner believes that anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below to schedule a personal or telephone interview to discuss any remaining issues.

In the event this paper is not considered to be timely filed, Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300, **referencing attorney docket number 107348-09095.**

Respectfully submitted,

  
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